

**SIX VALVE AM/FM table radio**, released January, 1960, at 32gns.  
**Mains.** 200-250V AC, 50c/s.  
**Consumption.** 50W.  
**Wavebands.** MW, 182-545m; LW, 1,200-2,000m; VHF/FM, 86-100mc/s.  
**Valves.** ECC85, ECH81, EF89, EABC80, EL84, EM84.  
**Rectifier.** Westinghouse EC1.  
**Pilot lights.** Two 6.5V, 0.3A MES.  
**IFs.** AM, 470kc/s; FM, 10.7mc/s.  
**Output.** 4W.  
**Speaker.** One 8 x 5in. elliptical 3ohm unit and one 4in. high frequency unit.  
**Aerial.** AM, directional ferrite rod for LW/MW with provision for connecting external aerial; FM, internal aerial for areas of high signal strength with provision for connecting external dipole.  
**Manufacturer.** E. K. Cole, Ltd.

**Service departments.** Somerton Works, Arterial Road, Southend-on-Sea, Essex; 230-232, Highgate Road, Birmingham, 12; 115, Jersey Street, Ancoats, Manchester, 4; 17, Cadogan Street, Glasgow, C2.

**DISMANTLING**

**Chassis removal.** Remove back cover by extracting five screws, pull off control knobs and remove four screws from beneath cabinet; these latter secure chassis to cabinet.

Extract the wood-screw holding bracing bracket to lower centre of baffle, slacken screw securing ferrite rod assembly bracket and spring the bracket slot over the screwhead. Remove valveholder from tuning indicator, when chassis may be withdrawn to extent of speaker leads.

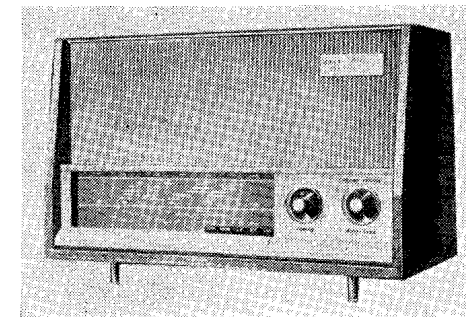
**Pointer drive.** Check that when the gang is fully meshed the drive pulley slots are at the top. Take a 47in. length of nylon cord with

a small loop at one end, attach the loop to the spring and anchor the spring to a convenient point.

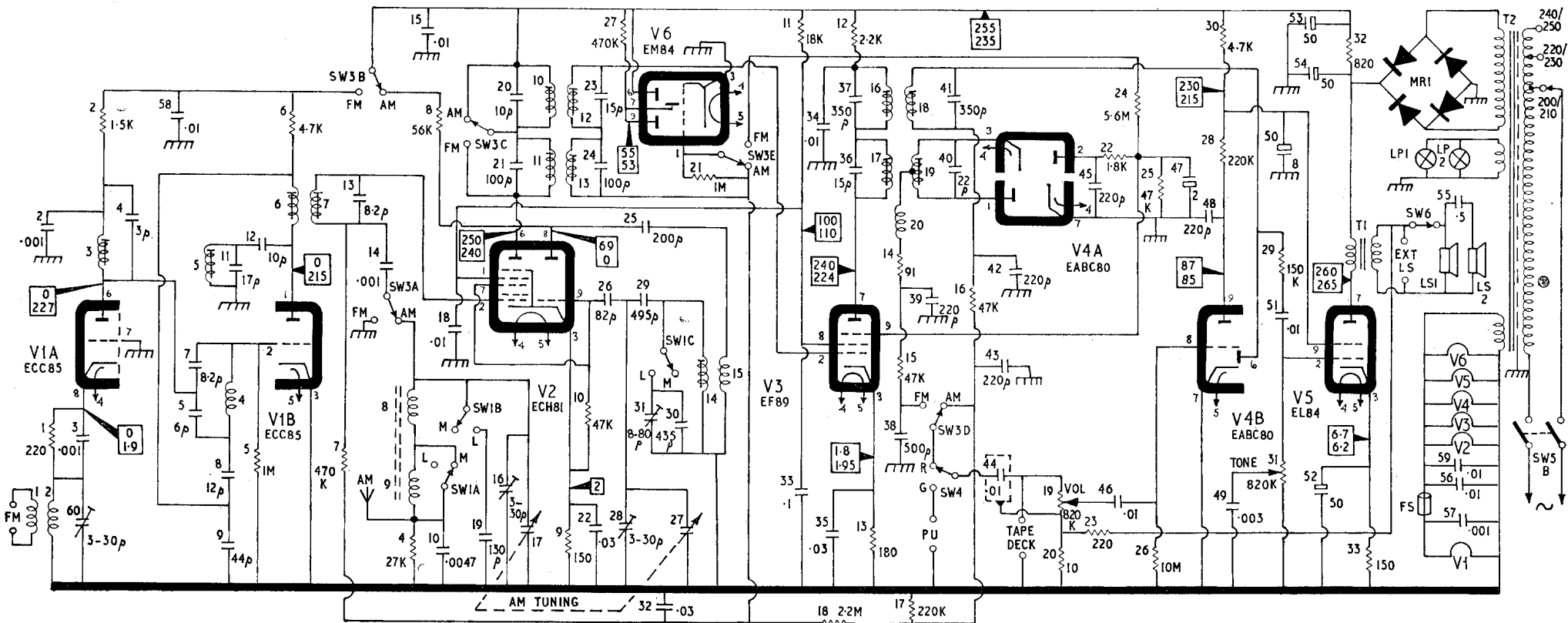
Pass the cord round pulley A (see diagram) in an anti-clockwise direction and round outer section of B clockwise. Take 1½ clockwise turns around D (the drive spindle) then clockwise around the inner section of B. Pass anti-clockwise round C, then four turns anti-clockwise round inner section of drive pulley. Pass cord through slot between two sections of drive pulley and secure to other end of spring so as to maintain a slight tension.

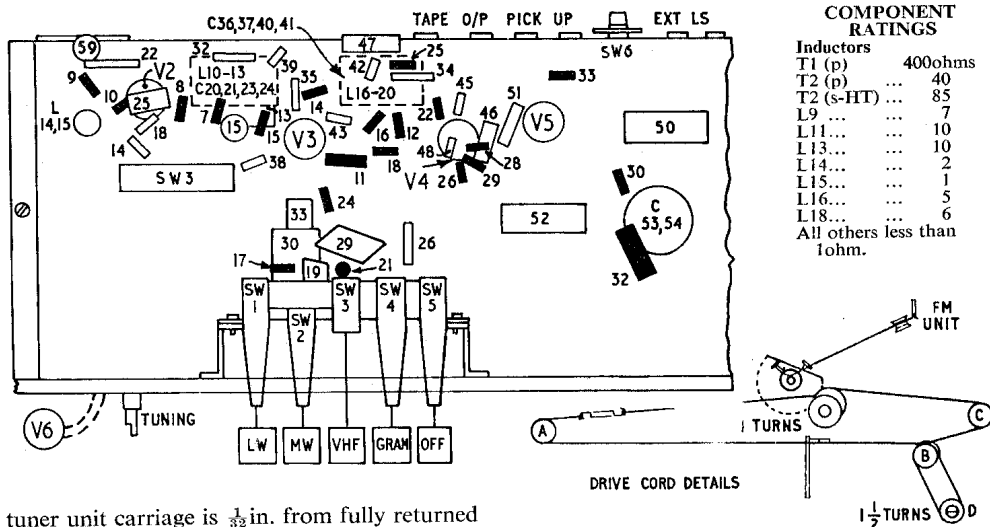
Attach pointer to cord between A and B so that it coincides with datum mark at right-hand end of scale with gang fully meshed. Finally, seal both knots with adhesive.

**VHF unit drive.** Take an 8½in. length of nylon cord, attach one end to end of tuner unit carriage and pass over pulley on tuner.



Take one turn anti-clockwise round tuning gang shaft (see diagram), fully mesh gang and pass cord round rear of right-hand screw on drive collar, securing it to left-hand screw. Adjust cord so that with gang fully meshed





**COMPONENT RATINGS**

**Inductors**

T1 (p)	400ohms
T2 (p)	40
T2 (s-HT)	85
L9	7
L11	10
L13	10
L14	2
L15	1
L16	5
L18	6
All others	less than 1ohm.

tuner unit carriage is  $\frac{1}{32}$  in. from fully returned position. Cord can be adjusted by rotation of tuning collar on condenser shaft.

**VHF switch drive.** Take a 6in. length of nylon cord, attach one end to top of lever at front of VHF press button unit, then pass round pulley. Tie at actuating spring so that when button is released the cord is taut and slide switch is released. Seal knots with adhesive.

**SERVICE NOTES**

**Voltages.** Where two readings are shown against a valve electrode on the circuit the upper is for AM operation and the lower for FM.

**ALIGNMENT**

**Equipment required.** Signal generator covering MW and LW bands, 10.7mc/s and Band 2, with 30 per cent AM modulation at 400c/s on LW/MW, and FM modulation on VHF; sound output meter; 0-50 micro-ammeter; matched pair of 220Ks; damping unit consisting of 4.7K in series with 1,000pF; 1,000pF and 0.1mF capacitors.

**Procedure IF, FM,** Connect output meter across speaker and turn volume and tone controls to maximum. Connect 220Ks in series across R25 and connect micro-ammeter between junction of 220Ks and chassis. Set dial to low frequency end of band and inject 10.7mc/s (unmodulated) at pin 2 of V3.

Damp L19 and adjust L17 for maximum reading on micro-ammeter; then damp L17, transfer earthy end of micro-ammeter to junction R14/C39 and adjust L19 for zero current reading between positive and negative peaks.

Transfer meter back to chassis and generator input to pin 2 of V2. Damp L10 and tune L12, and vice versa, for maximum current reading. Change generator input to junction

R2/C2 (connected via 1,000pF as this point is at HT potential) damp L7 and tune L6, and vice versa, for maximum current reading.

**IF, AM.** Switch to MW, turn tuning gang to full mesh, inject 470kc/s (modulated) via 0.1mF to pin 2 of V2, and adjust L18, L16, L13 and L11 in that order for maximum output on sound meter.

**RF, FM.** Switch to FM and ensure that conditions at end of **Pointer drive** and **VHF unit drive** notes are fulfilled. Set pointer to 92mc/s and inject signal of that frequency (FM modulated) at FM aerial socket. Adjust L5 and L3 for maximum sound output.

Check calibration at 87, 94 and 99mc/s; this should be within  $\pm 0.3$ mc/s. Check that oscillator is operating on low frequency side of carrier by setting dial to 100mc/s and applying 78.6mc/s signal; this should produce an image output.

Finally, set generator and dial to 92mc/s and adjust C60 for maximum output with internal aerial connected.

**RF, AM.** Switch to MW and set dial to 600kc/s. Inject 600kc/s (modulated) at AM aerial socket and adjust L14 until maximum output coincides with 600kc/s point on scale. Set dial and generator to 1,500kc/s and adjust C28 for maximum; change both to 666.6kc/s and adjust L8 on ferrite rod for maximum. Change receiver and generator to 1,400kc/s and adjust C16 for maximum. Check tracking and calibration at 545, .857 and 1,600kc/s.

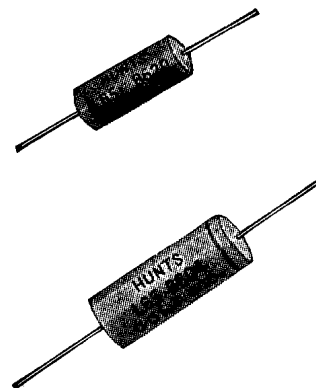
Switch to LW, set dial and generator to 214.3kc/s and adjust C31 for maximum output. Adjust L9 on ferrite rod for maximum output. Check tracking and calibration at 150 and 250kc/s.

# Speedy Dependable Servicing

Type L65 for A.C. Operation

A range of Foil and Paper Tubular Capacitors housed in waxed cardboard tubes, intended for applications where the major part of the applied voltage is A.C. or transient. Type L65 is suitable for operation up to +70°C.

Type L65. Temperature Range: -30°C. to +70°C.



THE TRADE MARK OF RELIABILITY

TYPE L65 FOR A.C. OPERATION			
Cap. $\mu$ F.	List No.	Dimensions L. D.	List Price s. d.
350 Volts A.C. Wkg. 750 Volts D.C. Wkg. 2250 Volts D.C. Test.			
0.01	B594	1 1/8" x 7/16"	1 6
0.02	B595	1 1/8" x 7/16"	1 7 1/2
0.05	B596	1 1/8" x 7/16"	1 7 1/2
0.1	B597	1 1/8" x 7/16"	2 1 1/2
0.2	B598	2 3/8" x 1 1/8"	2 9
0.5	B599	2 3/4" x 1 1/8"	4 6
400 Volts A.C. Wkg. 1000 Volts D.C. Wkg. 3000 Volts D.C. Test.			
0.001	B619	1 1/8" x 7/16"	1 6
0.002	B620	1 1/8" x 7/16"	1 6
0.005	B621	1 1/8" x 7/16"	1 6
0.01	B618	1 1/8" x 7/16"	1 6
0.02	B622	1 1/8" x 7/16"	1 9
0.05	B623	1 3/4" x 7/16"	1 9
0.1	B624	2 3/8" x 1 1/8"	2 6
0.2	B642	2 3/4" x 1 1/8"	3 3
600 Volts A.C. Wkg. 4 kV D.C. Test.			
0.001	B627	1 1/8" x 7/16"	1 9
0.0025	B600	1 1/8" x 7/16"	1 9
0.005	B602	1 1/8" x 7/16"	1 9
0.006	B603	1 1/8" x 7/16"	1 9
0.007	B632	1 1/8" x 7/16"	1 9
0.008	B631	1 1/8" x 7/16"	1 9
0.01	B604	1 1/8" x 7/16"	2 0
0.02	B605	2" x 7/16"	2 0
0.04	B606	2 1/8" x 3/8"	2 3
0.05	B607	2 1/8" x 3/8"	2 3
0.1	B608	2 1/4" x 1 1/8"	2 9

Type L65 is available also for 300 Volts and 800 Volts AC Working.

If not already in your possession apply for the latest Service Trade Catalogue for full details of Dry Electrolytics, Miniature Metallised Paper, Foil and Paper, Stacked and Silvered Miccas, etc.

**A. H. HUNT (Capacitors) LTD., WANDSWORTH, LONDON, S.W.18 Tel: VANDyke 6454**  
Factories also in Essex, Sussex, Surrey and North Wales